

CLAIMS.

1) Bicycle comprising a dismountable frame, a handlebar stem which permit to orient the handlebar, and pull down pedals enable to restrict the clearance and make the transportation easy in a car trunk, with notably for the two tubes frame bicycles, a connector device characterized because the bolt (108) is not directly mounted in the tubes (9, 10) hollows, but through fitting pieces (101, 102) mounted in the hollow of the frame tubes fitted in shape and diameter and both having an axial hollow (105, 106) intended for the running of an original automatic bolt: its root (108) is interdependent of a framework (110) under the strength of a spring (111) leant on a fixed structure (112); the spring (111) propels the framework (110) and constantly tends to keep the bolt (108) in the female part (110) of the fitting piece.

2) Bicycle comprising a dismountable frame; a handlebar stem which permit to orient the handlebar and pull down pedals according claim 1, the switch cable device(s) is (are) characterized because: is (their) fixed structure (17) is surrounded by a tube (116) in which slide the mobile structures (21, 22); a spring (117) leant on the tube (116) front end, and constantly pushes the front mobile structure (21) towards the mobile structures space of separating (120); the front mobile structure (21) is equipped with a fitting piece which comprises a low diameter neck (118), and a head with a larger diameter (119), which may be the end of the cable (114), ended by a metallic ball; the back fixed structure (18) limited at its back end by a limit stop (123), which may be formed by the tube (124) back end, in which slides the back mobile structure (22); the back mobile structure (22) front end is provided with a transversal cylinder (121), which pivots on its axle (122), its circular surface has a circular hole (125), extended by a narrower slot (126) which communicates with a spherical cavity (127) in the cylinder (121); a lateral lever (130) allows the cylinder (121) rotation around its axle (122) and engages the fitting piece neck (118), restoring the cable (14, 15) continuity; several switch devices may be set in parallel on the tube: for instance, if there is two twins devices (13a, 13b), their levers are facing at each other in the back mobile structures (22a, 22b), a lever (107a) is provided with a button (132) and a groove (103), according its horizontal diameter, the other lever (107b) is provided with a blade shaped piece (104) which may slide in the groove (103) when in horizontal position: the parallel back mobile structures (22a, 22b) switch devices are disconnected; the rotation of the lever (107a) with the button (132) allows to connect both the cylinders (121a, and 121b) and instantaneously to putt off / on the cables (14a, 15a, 14b, 15b). The levers which are facing at each other in the back mobile structures (22a, 22b) interval of separating, may also be formed by half cylinders, the upper lever (130a) has a cylindrical surface provided with a button (132) in upper position, its diameter in horizontal position and normal to the cylinders (121a, 121b) axle (122), the lower lever (130b) is also formed by a half cylinder which the half cylindrical surface is in low position and its diameter in horizontal position; the upper lever (130a) diameter may slide on the lower lever (130b), then the two back mobile structures (22a, 22b) are independent the one from the other; the rotation of the upper lever (130a) button (132) connects it with the lower lever (130b), it allows the cylinders (121a, 121b) to pivot and simultaneously put off / on the cables (14a, 15a) and (14b, 15b).

3) Bicycle comprising a dismountable frame, a handlebar stem which permit to orient the handlebar and pull down pedals according claim 1, with a stem composed of two parts characterized because the stem (48) upper part hollow has a solid upper part (133) which is mobile in the upper part of its hollow, a solid lower part (134) interdependent of the tube; the solid upper part (133) has a central hollow which slides on the fastening rod to the fork (45) which extends up the stem (44) lower part; the rod (45) end (135) is linked with a cam lever (136), the rod (45) lower part is provided with a cylinder or a sewed piece forming a cylinder (137) mobile in the tube (48), the rod (45) upper part includes a cylinder (138) adjoining with the solid part (133) forming together a unity both sliding in the tube (48) and on the rod (45), the space of separating between the cylinders (137 and 138) is occupied by an elastic ring (139), maneuvering the cam lever (136) push the mobile unity (133, 138) towards the fixed cylinder (137) and deforms the elastic ring (139), the stem (48) upper part becomes interdependent with the rod (45), itself interdependent of the stem lower part (44), the stem (48) upper part top end has a tighter section zone (140) intended for the jamming ring (139) when being deformed.

4) Bicycle comprising a dismountable frame, a handlebar stem which permits to orient the handlebar and pull down pedals according claim 1, with pedals characterized because the folding steel axles (71, 72) on which slide the tubes (75, 76) molded in the bars (78, 79) of the sole (77) have a part (142) notched on a portion of the arc (143) of its section, the notched part (142) length corresponds to the running which is necessary for the sole (77) to show the joints (73, 74); the portion of arc of circle (153) rope (144) is facing to the rod (145) going through both bars (77,78) tubes (75, 76), forming a limit stop for the sole (77) running; in the two ball bearings pedal method, the central axle is provided with a joint (146) the axle of which is in line with the joints (73, 74) ones, the central axle of pedal (149) top end is provided with a thread (147) which corresponds with the one of a screwing device (148) which holds the ball bearing (85), and slides on the central axle of pedal end; the ball bearing (85) is interdependent of the sole (77).Screwing or unscrewing the wheel screw (90) allows to fasten the sole to the framework (70) or separate of it. The ball bearing interdependent of the sole (77) may also slide directly on the central axle end (86), it allows the sole to show the joints (73, 74,146) and pull down. Any method allows fixing the sole to the framework. Finally, the pedal central axle may be arranged in two parts, a short part or stump (150 or 157) in the extension of the thread (68) arranged for bumping the framework to the crank arm, a long part (151) extended by a ball bearing -85) on which turns around the sole; the stump has a hollow (152) on its axle which is in fact a female site in which engages the male site formed by the long part (151) end, and vice versa, the stump is a male site and the long part end a female site, the stump (150 or 157) is an anchoring point for bumping the central axle long part (151or 58) interdependent with the sole (77), then indirectly for bumping it to the framework (70) the fastening of both the two parts of the axle together may be screwing a ring (154) interdependent of the long part on a thread (153) of the stump (150) external surface; The fastening may also take place between the pedal central axle stump (150) provided with vertical curved grooves (152) and the long part (151) provided with a lever (153), which consists of a cylindrical surface with a circular

hole (155) extended by a linear slot (155). Pivoting the lever around its transversal axle respectively engages the hole and the slot into the stump (150).

Finally, the fastening may be pressing studs (159,160) the hemispherical head of which may co operate with openings (162) set on the long part (151) engaging the studs
5 into the openings bumps the central axle long part (151) and the joining sole to the stump (157), when pressing simultaneously the studs, allows to separate the two parts.